CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2014
DateRun:	05/26/2014
Experimenters:	Ruth Tejada
ClientType:	Cleaner Manufacturer
ProjectNumber:	Project #2
Substrates:	Stainless Steel
PartType:	Coupon
Contaminants:	Greases, Waxes, Food
Cleaning Methods:	Manual Wipe
Analytical Methods:	Gravimetric
Purpose:	The purpose of this test was to find out how effective Moldex Paint Prep, Motsenbocker's Paint Prep, and a TSP substitute of 6.25% solution were at removing soil, wax pencil, DC17, and mustard from a stainless steel surface.
Experimental Procedure:	Three coupons were placed in a Gardner Straight Line Washability unit. A Kimberly-Clark Wypal reinforced paper towel was attached to the cleaning sled and soaked with 4-6 sprays of cleaning solutions. Each coupon was sprayed 3-5 times with the same cleaning solution. The cleaning unit was run for 20 cycles (~33seconds). At the end of the cleaning, bottom parts of the coupons were wiped once with a dry paper towel. Final weights were recorded, efficiencies were calculated and recorded.
Results:	On three trays, four rows of three stainless steel coupons were set up. Each row contained a different contaminant, be it soil, wax pencil, DC17, or mustard, the soiled coupons were allowed to dry between the applications of the contaminants and cleaning. The coupons were then allowed to dry after being cleaned. Mass of the coupons was taken before soiling, after the contaminants were allowed to dry, and once the coupons were dry after cleaning.

Product	Initial	Dirty	Final
Moldex_PaintPrep_Soil			
	2.0915	0.0177	99.15
	1.9644	0.0045	99.77
	2.1221	0.0049	99.77
Moldex_PaintPrep_WaxCrayon			
	0.1042	0.0047	95.49
	0.0114	0.0019	83.33
	0.0091	0.0090	1.10
Moldex_PaintPrep_DC17			
	0.5523	0.1829	66.88
	0.5299	0.1962	62.97
	0.4655	0.2274	51.15
Moldex_PaintPrep_Food_Mustard			
	1.3146	0.1057	91.96
	1.1890	0.0464	96.10
	1.0763	0.0384	96.43
Motsenbocker_Soil			
	2.4093	0.0051	99.79
	1.8457	0.0024	99.87
	2.1264	0.0222	98.96
Motsenbocker_WaxCrayon			
	0.0081	0.0015	81.48
	0.0034	0.0017	50.00
	0.0032	0.0011	65.63
Motsenbocker_DC17			
	0.5606	0.0684	87.80
	0.4170	0.0531	87.27
	0.6402	0.0780	87.82
Motsenbocker_Food_Mustard			
	1.2183	0.0752	93.83

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	0.8888	0.0821	90.76
	1.0115	0.1008	90.03
TSP_Substitute_Soil			
	2.0925	0.0076	99.64
	2.1517	0.0035	99.84
	2.1634	0.0411	98.10
TSP_Substitute_WaxCrayon			
	0.0013	0.0011	15.38
	0.0007	0.0006	14.29
	0.0011	0.0018	-63.64
TSP_Substitute_DC17			
	0.5499	0.1824	66.83
	0.6380	0.1593	75.03
	0.5513	0.1871	66.06
TSP_Substitute_Food_Mustard			
	0.8492	0.0132	98.45
	0.8194	0.0124	98.49
	1.0780	0.0884	91.80

Summary

Product Name	Conc.	% Efficiency	Effective	Observations
Moldex Paint Prep	100	99.56	Yes	Soil
Moldex Paint Prep		59.97	No	Wax pencil
Moldex Paint Prep		60.34	No	Grease mix
Moldex Paint Prep		94.83	Yes	Mustard
Motsenbocker's	100	99.54	Yes	Soil
Motsenbocker's	100	65.7	No	Wax pencil
Motsenbocker's	100	87.63	Yes	Grease mix
Motsenbocker's	100	91.54	Yes	Mustard
TSP Substitute	6.25	99.19	Yes	Soil
TSP Substitute	6.25	-11.32	No	Wax Pencil
TSP Substitute	6.25	69.31	No	Grease mix
TSP Substitute	6.25	96.24	Yes	Mustard

Summary:

Substrates:	Stainless Steel				
Contaminants:	Greases, Waxes, Food				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Fisher Scientific	Absolute Ethanol	0	0.00	☐	
Savogran Company	TSP Substitute	100	0.00	☑	Soil, mustard
Motsenbocker's	Motsenbocker Paint Prep	100	0.00	☑	Soil, grease, mustard
EnviroCare Corporation	Moldex Disinfectant	100	0.00	☑	Soil, mustard

Conclusion:

All three cleaners effectively removed the soil from the coupons. Motsenbocker's was the only one effective at removing DC17. Mustard was effectively removed by all three cleaners. More tests should be done on the subject of effectively cleaning wax off of surfaces.